

## CRITICAL SUCCESS FACTORS IN SUPPLY CHAIN MANAGEMENT IN THE BANKING SECTOR IN GHANA

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### ABSTRACT

This paper identifies the critical success factors in supply chain management in the banking sector in Ghana. A quantitative research approach was used. The population of the study was employees in selected commercial banks in Ghana. The simple random sampling procedure was used to select 144 respondents. The Exploratory Factor Analysis retains six (6) success factors of supply chain management. Out of the 6 factors, “motivation” contributes the highest amount of variation of 43.2%. The second highest amount of variation (22.8%) is contributed by “competency” of supply chain management staff. “Planning” accounts for the third highest variation of 12.6%, with “management commitment” accounting for 7.3% of the total variation. “Communication” effectiveness and “benchmarking” respectively account for 5.7% and 5.1% of the total variation. The six factors account for a total of 96.7% of the variation. The total variation accounted is high, and this implies that the 6 factors strongly relate to supply chain management success. So, each of the factors must be effectively carried out in supply chain management to reach expected success.

**KEYWORDS:** Supply Chain, Supply Chain Management, Supply Chain Process, Supply Chain Success, Critical Success Factors

### INTRODUCTION

Supply chain management forms a major part of business management. Moreover, this arm of business management is believed to contribute largely to organisational growth. Supply chain processes have been major organisational activities for a long time. Moreover, supply chain constitutes one of the main management functions of organisational growth (Thakkar *et al.* 2008), especially among firms which depend largely on logistics, materials or equipment (Mensah *et al.* 2014; Ab Talib *et al.* 2014). In view of this, supply chain management is of priority to many organisations, where most of them dedicate special departments or units to supply chain. But to better understand the value of supply chain management in the organisation, there is the need to take a look at what it means in practice.

The term supply chain has been defined in several ways from various perspectives. Agyei *et al.* (2013: 34) defines supply chain as “the network of organisations, which are involved through upstream and downstream linkages, in different processes and activities that create value in the form of products and services for final consumer”. Supply chain management is viewed as a business process that seeks to ensure efficient and effective flow of products, materials services, information from the supplier through to the customer (Agyei *et al.* 2013; Ab Talib *et al.* 2014). Based on the above definitions, supply chain management is a highly important management process that forms the basis of efficient and effective flow of products, services and logistics. Since businesses make financial returns from products and/or services, supply chain therefore comes with a medium in which services and products flow efficiently to create the needed link between organisation and its customers or stakeholders.

Based on the above definitions, supply chain is not a business process limited to a particular sector such as the manufacturing sector. Thus supply chain is basic to the growth of both service and product-focused organisations. This assertion is justified by Agyei *et al.* (2013: 34) who make the submission that “supply chain management seeks to enhance competitive performance by closely integrating the internal cross-functions within a company and effectively linking them with the external operations of suppliers, customers, and other channel members”. As a result, both manufacturing and service firms need supply chain management as a management function to grow. Meanwhile, the relevance of supply chain to organisations is not only justified on theoretical and conceptual grounds.

Research has shown that supply chain contributes to the growth of businesses, regardless of their sectors. Quesada *et al.* (2012), Mensah *et al.* (2014), Rozar *et al.* (2014) and others provide empirical evidences that point to the contribution of supply chain to the growth of manufacturing firms, while Wagner *et al.* (2012), Kristofik *et al.* (2012) and other researchers provide this evidence in the context of financial services delivery. Ngai *et al.* (2004) go further to indicate that web-based supply chain contributes to growth of businesses. In essence, supply chain is much versatile, providing value to organisations of all sectors and operations. Even so, it is believed that the contribution of supply chain to business growth depends on how much it is employed in the organisation.

Supply chain management is taking deep roots in banking (Wagner *et al.* 2012). This is owing to the increasing deployment of banking logistics and equipment (e.g. ATMs, money counting machine, etc.) and the need to integrate banks with customers and stakeholders through banking services and products. Kristofik *et al.* (2012), in this respect, make the submission that there is an emerging need for banks to engage in financial supply chain, which is an avenue for disbursing financial resources among banks. In view of this development, it has been argued that the need for effective supply chain among banks is quite critical (Kristofik *et al.* 2012). They have therefore suggested that banks enhance their priority to supply chain and take steps to fine-tune their supply chain procedures towards maximised growth. It is however observed in a personal survey of past literature that research has not contributed much to supply chain practice in the banking sector. Thus a larger proportion of supply chain researches focus on the manufacturing sector, leaving a colossal hole in literature based on financial or banking supply chain.

According to Enporion Inc (2009), effective supply chain management within the organisation is based on what strategies management employ. To Ab Talib *et al.* (2014), Ngai *et al.* (2012) and Rozar *et al.* (2014), an effective supply chain is the one based on an observance of the success factors in supply chain management. Unfortunately, an insignificant number of studies hold this evidence from the perspective of commercial banking. It is even worse that no identifiable study points to this evidence in a Ghanaian context. Meanwhile, the growing commercial banking sector of Ghana ought to leverage the new developments in financial and banking supply chain to maximise growth.

In this study therefore, the researchers identify the success factors in supply chain management in the commercial banking sector in Ghana. The researchers endeavour to provide a framework of strategies for effectively embarking on supply chain in the commercial banking sector in Ghana.

## OBJECTIVE OF THE STUDY

The objective of this study is to identify success factors in supply chain management in the banking sector of Ghana. This study is expected to provide a framework of critical considerations towards effective supply chain management in commercial banks in Ghana.

The study also contributes to academic debate on the subject and enlarges the small body of studies on the subject in a Ghanaian context. Also, the study provides future research pointers on the subject. As a result, this study serves as a reference point for researchers who would like to undertake similar studies.

### **Review of Literature and Hypotheses**

Several qualitative and quantitative studies (e.g. Kuei & Madu, 2001; Marwah et al., 2014; Ab Talib et al., 2014; etc.) have provided evidence on what the success factors of supply chain management are. By observation, these studies have similarities and differences in terms of the list of factors unfolded. Some researchers merely used different names to refer to some of the success factors. For instance; some researchers refer to “communication” as “information flow”, while others refer to “benchmarking” as “monitoring and control”. But there are situations where some of the factors provided are entirely different. According to Ngai et al. (2004), this situation is as a result of slight differences in supply chain based on the sector and business involved. So many researchers identify these success factors based on the nature of the business and sector involved.

Supply chain management in service organisations, or financial service organisations is based on almost a common procedure. As a result, studies focused on success factors of supply chain in service organisations provide a common list of factors. As a result, this section would be based on success factors revealed in the study of Kristofik et al. (2012), which unfold the exact success factors of supply chain management in the banking sector. In their study, six success factors are revealed. These are planning, employee commitment; top management commitment; training and education; communication; benchmarking. For the sake of clarity, these factors must be explained in the context of supply chain management.

It is proved by many researchers that supply chain management success is dependent on the thoroughness and appropriateness of the planning associated with it. Planning in the context of supply chain is the process of drawing a schema and road map of work to define all the processes and activities of the chain and their timelines and schedules (Kurien & Qureshi, 2011; Quesada et al., 2012). According to Ngai et al. (2004), the plan involves who does what, at what time, and how? It defines the roles and actions of each stakeholder in the network and establishes policies and strategies for evaluating and controlling success (Ngai et al., 2004; Kurien & Qureshi, 2011). Success in supply chain is strongly linked to planning because it forms the basis of whatever is done and achieved. But since planning is done by people, there is a school of thought that it cannot well impact supply chain management success if employees and stakeholders of the company are not committed.

A second factor that drives success in supply chain management is therefore employee or stakeholder commitment (Marwah et al., 2014; Attaran, 2012). In some studies, it is referred to as “employee motivation”. Motivation significantly drives success in supply chain because it determines the dedication of employees to their responsibilities defined in planning (Attaran, 2012). Without employee motivation, a good plan would hardly work for the organisation because employees would be unwilling or reluctant to play their roles in achieving goals in the supply chain process. Employee motivation comes from a wide range of primary factors. These are remuneration, work condition, fringe benefits, management recognition and appreciation of their roles and suitability of work environment (Kurien & Qureshi, 2011; Quesada et al., 2012). Failure of organisations to ensure that their supply chain employees are well motivated would hinder the realisation of maximum performance. But often, employee motivation in the organisation depends on the commitment of its management to supply chain.

A third factor of supply chain success is management commitment (Kurien & Qureshi, 2011; Quesada et al., 2012; Okino & Cattini, 2011). Without management commitment, the organisation may be unwilling to deploy financial resources for the implementation of the supply chain plan. Moreover, a lack of commitment from management of the organisation would mean that issues of supply chain would not be taken seriously. The motivation, recruitment and training of supply chain employees would also be badly affected, likewise the relationship between the organisation and its external supply chain partners and stakeholders. It is therefore required that top managements of organisations become commitment to supply chain. According to Quesada et al. (2012), this can be achieved when management of organisations focus on the short and long-term benefits of supply chain. If they recognise the value of supply chain, they would be able to commit to its tasks and requirements.

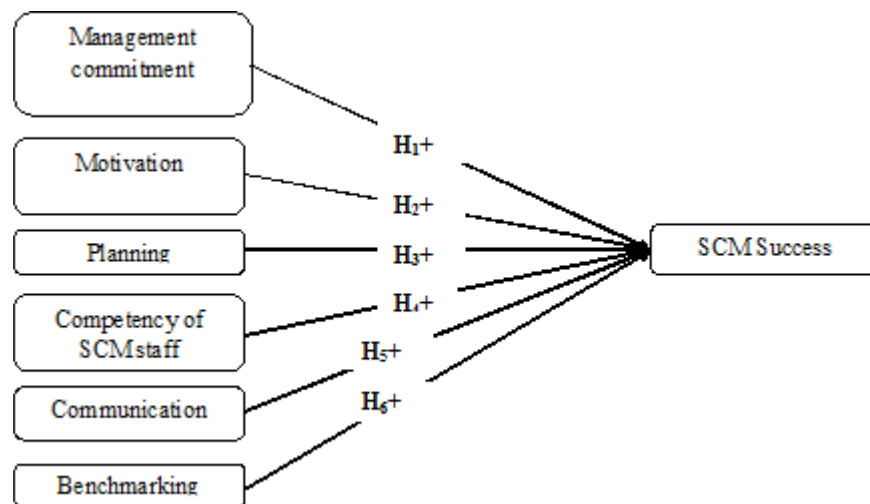
Training and education are the fourth success factor in supply chain management. Training and education are needed to equip employees with the necessary skills and knowledge so to be able to play their roles as defined in the supply chain planning (Quesada et al., 2012; Thakkar, 2008; Thoo et al., 2011). From a personal standpoint, education and training must be preceded by strategic selection of employees for the supply chain department. If recruitment should be blended into this factor, then it could be referred to as the competency needed by employees and all stakeholders to play their role in the supply chain process. Competency in this context is much relevant to supply chain success, as it is the basis of effective communication (Rozar et al., 2014; Wagner et al., 2012).

Communication is a major success factor in supply chain management. In fact, it is the most common factor among all studies based on the subject. Many researchers (e.g. Wagner et al., 2012; Quesada et al., 2012; Thakkar, 2008; Thoo et al., 2011) have argued that without effective communication among supply chain employees and stakeholders, the network is broken and its activities come with no success. This is because the relationship among distributors, suppliers and retailers is glued by communication. Hence every member of the network needs to understand effective communication and how to relish it in the supply network. As mentioned earlier, education, training and making sure that the right people are hired are the basics to effective communication in all supply chain processes. Yet, effective communication also underlies effective benchmarking (Thakkar, 2008; Thoo et al., 2011), which is another major success factor in supply chain management.

It has been argued that success in supply chain management cannot be measured without benchmarking (Ai-Chin et al., 2010). With benchmarking, it is possible to monitor and control activities of supply chain (Thakkar, 2008; Thoo et al., 2011). This process enables management to use strategies for hedging against potential flaws and problems that threaten success in the supply chain (Ai-Chin et al., 2010). The relative importance of benchmarking is popularly upheld in the literature because every supply chain process comes with setbacks and challenges that must be identified and troubleshot (Thakkar, 2008; Thoo et al., 2011; Ai-Chin et al., 2010). Supply chain management performance in all organisations is therefore dependent on benchmarking.

There are other success factors of supply chain. Yet these factors are often treated as a composite factor in the banking sector. Moreover, they make a collective effect on supply chain success. These factors are termed socio-economic factors which cannot be controlled by the banks. These factors are suitable economic indicators such as inflation and exchange rate and government support in the form of infrastructure (Kristofik et al., 2012). Studies (e.g. Kristofik et al., 2012; Kuei & Madu, 2001; etc.) have shown that these factors largely influence supply chain success, though they are not within the control of firms. Yet, another factor that may be placed in this category but which is largely influenced by the

firm is the availability of financial resources in the organisation. No matter the level of commitment of management, financial resources must be available for deployment for the implementation of supply chain. For some reasons, however, this study does not capture these socio-economic factors, including “availability of financial resources”. These factors are incorporated in other studies of ours since their inclusion makes the study too bulky.



**Figure 1: Conceptualisation of Critical Success Factors in SCM**

It is worth mentioning that the above factors have been identified in various qualitative and quantitative studies. Yet, it is obvious that all the studies have been conducted outside Ghana and Africa, with most of the studies conducted in Asia (e.g. Rozar et al., 2014; Quesanda et al., 2012; Thoo et al., 2011; etc.). Since studies were thoroughly searched from most peer-review journals and e-libraries, the absence of a study that has been conducted in Ghana or Africa in this review is not by accident. Even if related studies exist on the subject, they are very few and insignificant in number. As far as this study is concerned, no identifiable study exists on the subject. This means that academic debate on the subject from a Ghanaian and African point of view is abysmally weak.

Also, most of the reviewed studies (e.g. Rozar et al., 2014; Quesanda et al., 2012; Thoo et al., 2011; etc.) have been conducted in manufacturing sectors. So the bulk of evidences on the subject are on manufacturing firms. In terms of banking, only one related study (i.e. Kristofik et al., 2012) is identifiable. This means that the volume of the current literature is skewed in favour of manufacturing firms. This is a problem because banks are major drivers of economic development in many economies. Moreover, banks are increasingly embarking on supply chain in recent years (Kristofik et al., 2012). So the fact that banks are less featured in the subject's literature is a major gap that must be remedied.

Apart from the study of Kristofik et al. (2012), most of the studies conducted in this study are blind to socio-economic factors such as government support, political stability, regulatory framework and the like. According to Kristofik et al. (2012) these factors are practically significant drivers of supply chain management success. Therefore they must be incorporated in the subject's studies. For instance, exchange rate and inflation are economic factors that always influence supply chain management activities. Studies must therefore recognise them. Therefore, the fact that most studies on the subject neglect these factors is a critical issue in the literature.

Last but not least, many of the studies conducted on the subject are qualitative researches. Yet, the identification of success factors of supply chain management must be done using robust statistical procedures and tools such as the use of Exploratory Factor Analysis. This is because the identification of a factor can only be justified when these procedures and statistical tool are used (Kuei & Madu, 2001; Marwah et al., 2014). Obviously therefore, those studies employing literature reviews and descriptive statistics give a weak contribution to academic debate on the subject.

In view of the above major gaps in the subject's literature, this study identifies success factors of supply chain management in the banking sector in Ghana. The study employs Exploratory Factor Analysis (EFA) to screen for success factors of supply chain. It is therefore hypothesised that planning, motivation, management commitment; competency of SCM staff; communication and benchmarking positively influence supply chain management success among commercial banks in Ghana.

## METHODOLOGY

The quantitative research approach was used in this study. This research approach was opted for in view of the need to test the alternative hypothesis of this study, or in modelling the relationship between supply chain success and its determinants (i.e. success factors). This is because studies involving hypotheses testing are generally considered appropriate when given a quantitative dimension (Creswell, 2003). Moreover, the use of inferential statistical tools in analysing data takes place in quantitative studies (Rice, 1995; Creswell, 2003). By adopting the quantitative research, it becomes feasible to test for data reliability and other assumptions governing the use of the chosen inferential statistical tools.

The population of this study was management employees in commercial banks listed on Ghana Stock Exchange in Ghana. The target population of this study was administrative employees (who had worked for at least 2 years) in the supply chain departments of the head offices of Ghana Commercial Bank (GCB), National Investment Bank (NIB), Standard Chartered Bank (SCB) and Ecobank. The target population also involved senior employees from other departments who had worked in their respective banks for at least 2 years. These banks were used because they provided access to information owing to the fact that they are listed on the Ghana Stock Exchange. Participants were expected to have worked for at least 2 years in their respective banks to ensure that the information provided by them was based on substantial work experience. The target population of employees in the four commercial banks was 233. Since the researcher could not collect data on all 233 employees, a sample of this number was needed.

Barreiro & Albandoz (2001) posits that quantitative researches must be associated with random and representative samples. This is because the goal of inferential statistical analysis or hypothesis testing is to generalise findings. If a sample is not representative and random, it is not appropriate for results of a study to be generalised. In view of this argument, the simple random sampling technique was employed in this study. This sampling procedure gives all population units equal chances of being selected into the sample; hence the generalisation of results is more appropriate with it (Bartlett et al., 2001; Barreiro & Albandoz, 2001). Moreover, the balloting method of this sampling method was used. Based on its credibility and the fact that it makes room for about 10% missing questionnaires, the sample size determination procedure of Krejcie & Morgan (1970) was used to determine the sample size of 144.

The dependent variable of this study is Supply Chain Management Success designated as "SCM Success". This variable is a construct that has several manifest variables, and definitions. In the context of banking supply chain,

SCM success is a measure of a supply chain process that yields results that support the performance of every department and the entire organisation (Kristofik et al., 2012). In measuring SCM success, the fulfilment of the individual roles of supply chain management at all stages is considered (Ngai et al., 2004; Kristofik et al., 2012). It is assumed that SCM contributes to the performance of each department when its roles are fulfilled at all stages in the supply chain. Hence, Kristofik et al., (2012) suggest that SCM Success be measured on the basis of how much the role of supply chain has been fulfilled at all stages. Based on this argument, SCM Success was measured in this study by identifying from employees the extent to which each aspect of supply chain management (e.g. planning, recruitment, communication, etc.) has been accomplished. In harmony with the measurement approach of Kristofik et al. (2012), respondents were asked to score (from 1 to 5) the extent to which the role of each stage of SCM has been fulfilled.

The independent variables of this study are the six success factors. These variables have already been explained in the previous chapter. Each of them has several manifest variables as noticed in the study of Kristofik et al. (2012), and was measured using the same approach used for the dependent variable, SCM Success.

A self-administered questionnaire was used to collect data. This type of instrument was used to ensure that respondents could be given two options of responding; thus either by e-mail delivery or hand delivery. Using this instrument also made response easier and flexible for respondents. This is because they were given sufficient time to respond as a result of their work schedules. This questionnaire was built on a five-point likert scale using items borrowed from the studies of Kristofik et al. (2012), Kurien & Qureshi (2011), Ab Talib et al. (2014) and Rozar et al. (2014).

A number of measures were taken to ensure that the data collected was valid and reliable. One of these measures was to use items that conform to previous research studies. Moreover, the instrument was submitted to research professionals to review and suggest corrective measures. A pilot study was conducted using a sample of employees from Standard Chartered Bank Ghana to eliminate errors and misstatements, ensuring that it was sufficiently valid and reliable.

Prior to data collection, the human resource managers in the various banks were notified about the study and the information needs of the researcher. A request was made to inform members of the sample or respondents. The researcher was given access to the e-mail addresses and office telephone lines of the respondents. Each respondent was contacted by means of an e-mail or telephone call to inform him or her about the study and the medium of response he or she would want to use. The human resource managers provided suitable dates for administering questionnaires by hand delivery. E-mail delivery of questionnaires was done as soon as respondents were informed of the study and agreed to respond. Some questionnaires were administered by hand delivery in five working days, while it took a day to deliver the rest of the questionnaires by e-mail. Respondents were given 14 working days to respond and return completed questionnaires. For one or two reasons, not all respondents could return questionnaires. Some return questionnaires also had issues. Hence, a total of 105 completed questionnaires were deemed appropriate for incorporation in data analysis. Thus the response rate of this study was 73%.

Data was analysed using SPSS Version 21. This statistical software was used as a result of its robustness for relational statistical data analysis. The Exploratory Factor Analysis (EFA) was used to reduce the dimension of the success factors and dependent variable, SCM Success. Rice (1995) acknowledges the appropriateness of this statistical tool for in this context. Multiple linear regression is used to model the relationship between SCM Success and the six factors. This statistical tool was deemed appropriate for understanding the detailed relationships among the variables. It was also used because data employed are continuous and come from a normally distributed population. Results of the study are presented

in the next section.

## RESULTS

This section comes with result of the study. For results of this study to be valid, its data must come from a normally distributed population based on the decision to use regression analysis in analysing data. Table 1 verifies whether data used in this study were normally distributed or came from a normally distributed population.

**Table 1: Normality of Data**

	Shapiro-Wilk		
	Statistic	DF	Sig.
Planning	.193	105	.531
Competency of SCM staff	.260	105	.207
Motivation	.170	105	.652
Management commitment	.280	105	.176
Communication	.284	105	.132
Benchmarking	.224	105	.231
SCM Success	.107	105	.845

**Source:** Field Data, 2014

Table 1 shows the test for normality of data. This table is used to verify the normality of the data drawn from the target population. The default null hypothesis is that data associated with the major variables of interest were drawn from a normally distributed population. This hypothesis must be confirmed so that results of this study would be valid. This hypothesis is tested at 5% significance level, and the p-value of each variable must be greater than this significance level if the data associated with it is normally distributed. From the table, the p-value of each variable is greater than 5% ( $p > .05$ ). This means that data on each variable is normally distributed. A basis for reaching valid conclusions is therefore established.

Table 2 in the appendix shows results of the EFA. From the table, six success factors of supply chain management are identified. Out of these factors, employee motivation contributes the highest amount of variation (43.2%). The second highest amount of variation (22.8%) is contributed by competency of SCM staff. The six factors account for a total of 96.7% of variation, and this indicates that the factors strongly relate SCM Success. In the table, no manifest variable is extracted from the factors, a situation translated in the high variation contributed by the six factors. This is because none of the manifest variables has a communality value less than 0.50. Generally, the EFA extracts all variables with communalities of 0.50. Based on the variations contributed, motivation may be considered the most important success factor, followed by competency, planning, management commitment, communication and benchmarking. Yet, the relative importance of each factor can be better seen in a regression model. Tables 3 to 6 come with this analysis.

**Table 2: Correlation Matrix**

		A	F1	F2	F3	F4	F5	F6
Pearson Correlation	SCM Success (A)	1.000	.859	.716	.920	.892	.582	.766
	Planning (F1)	.859	1.000	.777	.905	.847	.138	.420
	Competency of SCM staff (F2)	.716	.777	1.000	.574	.665	.195	.258
	Motivation (F3)	.920	.905	.574	1.000	.832	.389	.665
	Management commitment (F4)	.892	.847	.665	.832	1.000	.249	.475
	Communication (F5)	.582	.138	.195	.389	.249	1.000	.900
	Benchmarking (F6)	.766	.420	.258	.665	.475	.900	1.000

**Source:** Researcher's SPSS Computation



Table 3 shows the correlation matrix of SCM Success and the six factors retrieved in the EFA. From the table, each factor is highly positively correlated to SCM Success. This means that SCM Success improves as each of the factors is improved. Motivation makes the highest correlation with SCM Success ( $r = .920$ ,  $p < .05$ ), followed by management commitment ( $r = .892$ ,  $p < .05$ ), where communication makes the least effect on SCM Success ( $r = .582$ ,  $p < .05$ ). The strength of the correlations expresses the extent to which a factor influences SCM Success. This means that motivation makes the highest influence on SCM Success. Table 4 shows the model summary of the prediction of SCM Success by the 6 factors.

**Table 3: Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.932 <sup>a</sup>	.921	.916	.00241	2.023
a. Predictors: (Constant), Benchmarking, Competency of SCM staff, Management commitment, Motivation, Communication, Planning					
b. Dependent Variable: SCM Success					

Table 4 shows the model summary of the prediction of SCM Success by the six factors. In the table, 92.1% of the variation is accounted by the six factors. This means that the six factors make a strong relationship with SCM Success. The small value of the standard error indicates the precision of the estimated variation. Moreover, the Durbin-Watson value is very close to 2; hence the independence of errors assumption is satisfied. Table 5 shows whether the regression analysis better relates each factor to SCM Success.

**Table 4: Anova<sup>a</sup>**

Model	Sum of Squares	DF	Mean Square	F	Sig.
Regression	31.552	6	5.259	908815.883	.000 <sup>b</sup>
Residual	.001	98	.000		
Total	31.552	104			
a. Dependent Variable: SCM Success					
b. Predictors: (Constant), Benchmarking, Competency of SCM staff, Management commitment, Motivation, Communication, Planning					

Table 5 shows an ANOVA test associated with the prediction of SCM Success by the six factors. This test verifies whether the use of the regression analysis improves the researcher's ability to examine the relationship between SCM Success and the factors. This test is conducted at 5% significance level. From the table, the test is significant,  $F(6, 98) = 908815.88$ ,  $p = .000$ . This implies that the use of the regression analysis improves the researcher's ability to examine the relationship between SCM Success and the factors. This also implies that the relationship expressed by the regression model is better relative to what is seen in the correlation matrix.

Table 5: Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval For B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	-.007	.004		-1.998	.049	-.014	.000		
Planning	.129	.002	.154	59.838	.000	.124	.133	.328	6.130
Competency of SCM staff	.230	.002	.158	126.725	.000	.226	.234	.117	8.527
Motivation	.189	.002	.196	99.592	.000	.186	.193	.347	1.106
Management commitment	.182	.000	.363	422.685	.000	.182	.183	.249	4.019
Communication	.135	.001	.221	117.921	.000	.133	.138	.252	3.114
Benchmarking	.137	.002	.159	81.443	.000	.133	.140	.348	5.790
a. Dependent Variable: SCM Success									

Table 6 shows the coefficients of the prediction of SCM Success by the six factors. In the table, each factors significantly predicts SCM Success at 5% significance level, where competency of SCM staff serves as the best predictor of SCM Success ( $t = 126.7$ ,  $p = .000$ ). The fact that the variance inflation factor (VIF) values of each predictor is below 10 implies that there is no collinearity among the predictors. This situation makes way for the validity of conclusions in the regression analysis. The relationship between SCM Success and the factors is expressed as follows:

$$\text{SCM Success} = 0.13*\text{Planning} + 0.23*\text{Competency} + 0.19*\text{Motivation} + 0.18*\text{Management Commitment} + 0.14*\text{Communication} + 0.14*\text{Benchmarking} - 0.007$$

In the equation, each factor contributes a positive effect on SCM Success. This means that SCM success improves as each of the factors is improved during implementation. Moreover, competency of SCM staff contributes the highest influence on SCM Success. In Table 3, motivation has the highest influence on SCM Success, but the regression identifies competency of SCM staff as the best driver of SCM Success. Since the regression analysis provides a better view of the relationship seen in Table 3, competency of SCM staff could be considered the best driver of SCM success. Planning, communication and benchmarking make the least effect on SCM Success.

## DISCUSSIONS

By using the Exploratory Factor Analysis, six (6) success factors of supply chain management are retrieved. The confirmation of these factors is largely supported by the literature, where many studies (e.g. Kuei & Madu, 2001; Ngai et al. 2004; Kristofik et al., 2012; etc.) support these success factors. However, this study is among a very few to provide evidence on these six factors in the context of banking in Ghana. One of the most popular evidences is provided by Kristofik et al. (2012), who did not conducted their study in a Ghanaian context. This implies that this study is among the very few to reveal the success factors in a Ghanaian context. The evidence provided in this study is more robust relative to other studies (e.g. Kristofik et al., 2012; Quesada et al., 2012; Rozar et al., 2014; etc.) because these studies did not employ robust statistical tools (such as EFA) in screening for these variables. There is also a scarce use of regression in modelling the factors in the empirical literature of the study.

As a result, most studies (e.g. Kristofik et al., 2012; Quesada et al., 2012; Rozar et al., 2014; etc.) could not tell the variations accounted by each factor in SCM Success at the level of EFA and regression, while this study well specifies this. For instance; “Motivation” contributes the highest amount of variation of 43.2% at the level of EFA. The second

highest amount of variation (22.8%) is contributed by competency of supply chain management staff. “Planning” accounts for the third highest variation of 12.6%, with “Management commitment” accounting for 7.3% of the total variation. “Communication” effectiveness and “Benchmarking” respectively account for 5.7% and 5.1% of the total variation. The six factors account for a total of 96.7% of the variation.

## CONCLUSIONS

The Exploratory Factor Analysis retains six (6) success factors of supply chain management. Out of the 6 factors, “Motivation” contributes the highest amount of variation of 43.2%. The second highest amount of variation (22.8%) is contributed by competency of supply chain management staff. “Planning” accounts for the third highest variation of 12.6%, with “Management commitment” accounting for 7.3% of the total variation. “Communication” effectiveness and “Benchmarking” respectively account for 5.7% and 5.1% of the total variation. The six factors account for a total of 96.7% of the variation. The total variation accounted implies that the 6 factors strongly relate to supply chain management success. At the level of EFA, motivation is the most important success factor, followed by competency, planning, management commitment, communication and benchmarking, in this order. Hence, these six factors determine supply chain management success in the banking sector in Ghana.

## IMPLICATION FOR FUTURE RESEARCH

As seen in the previous sections of this chapter, this study’s results are enlightening, and surely contribute to knowledge on the subject from a Ghana point of view. As a result of limitations and challenges encountered in this study, the researcher believes that some actions can be taken in future researches to improve this study’s contribution to knowledge and academic debate.

It is first suggested that future researchers conduct this study on a wider population of employees from the banking sector in Ghana. More commercial banks should be incorporated into this study to ensure that results could be better generalised to reflect a nationwide situation. There is also the need to conduct this study in other sectors such as health and public sector firms. This is because empirical evidences on the subject in these sectors are scarce from a Ghanaian perspective. Since this study has provided a clue about the significant effect of the four socio-economic variables on SCM Success, future studies should capture them among the six success factors in the OLS regression model.

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## APPENDICES

**Table 6: EFA Statistics**

Number	Factor	Manifest Variable	Initial	Extraction	Variation (%)
1	Planning	SCM activity determination	1	0.948	12.6
		SCM activity planning	1	0.948	
		SCM activity scheduling	1	0.777	
2	Competency of SCM staff	Employee recruitment for SCM	1	0.967	22.8
		Selecting partners/stakeholders for SCM	1	0.967	
		Employee training for SCM	1	0.705	
		Training of partners/stakeholders for SCM	1	0.948	
		Education for SCM employees	1	0.924	
3	Motivation	Salaries for SCM employees	1	0.812	43.2
		Allowances and fringe benefits for SCM employees	1	0.932	
		Work condition for SCM employees	1	0.815	
		Nature of work environment to SCM employees	1	0.948	
4	Management Commitment	Availability of financial resources to SCM	1	0.922	7.3
		Management attention to SCM	1	0.922	
		Management's responsiveness to SCM activities and problems	1	0.916	
		Monitoring and evaluation of SCM activities	1	0.896	
5	Communication effectiveness	Effective communication among SCM employees	1	0.886	5.7
		Effective communication among SCM partners and stakeholders	1	0.942	
		Effective communication at all stages of SCM	1	0.876	

**Table 6: Contd.,**

6	Benchmarking	Setting appropriate standards for meeting goals of SCM	1	0.920	5.1
		Setting appropriate performance targets for meeting goals of SCM	1	0.950	
		Meeting SCM goals based on standards and targets	1	0.958	
Total					96.7

**Source:** Researcher's SPSS Computation